HT640

V/01

VHF submersible marine handheld transceiver

OWNERS MANUAL

Version A [ ]   Version B [ ]
Version C [ ]   Version D [ ]
Version E [ ]   Version F [ ]

Entel UK

CE COMPLIANCE STATEMENT & OPERATORS LICENSE

The HT640 transceiver displays "CE" on the serial number label, indicating its compliance with the essential requirements of the EEC directive for Electromagnetic Compatibility.

A Restricted Radiotelephone Operators Permit is the license most often acquired by radio operators of small watercraft, when the radio is not required for safety purposes.

This permit must be posted aboard the craft or kept by the licensed operator. Only a licensed operator may operate a marine transceiver. Others may talk over a transceiver if the operator begins, supervises, and ends the transmission.

DECLARATION OF CONFORMITY

We, Entel UK Limited.

Of:-
4 Elstree Gate, Elstree Way,
Borehamwood, Herts.
WD6 1JD
United Kingdom.

Declare under our sole responsibility that the product:-
HT640 VHF Marine Submersible Transceiver

Serial Number.....................................
to which this declaration relates is in accordance with directive 95/5/EC and conforms to the following standards or other nominative documents :-
EN 301 178-2 V 1.1.1 (2000-08), EN60950 August 1992, A11 1997
EN 60945 1997 & ETS 300 698 Annex B December 1996
following the provisions of the R&TTE directive.

M. Austin
Quality Manager
27th June 2003

ISO 9001
REGISTERED FIRM

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1.1 INTRODUCTION

The Entel HT640 is a professional marine handheld transceiver that operates on the VHF marine band.

The HT640 has 58 marine international channels, 10 weather, and 36 dealer programmable private channels. The 58 marine channels are switchable to comply with USA, International or Canadian regulations, this is done via the keypad. It has an emergency channel 16 button, which can be immediately selected from any channel by pressing the red 16/9 key. Weather channels can also be accessed immediately by pressing WX key.

The HT640 includes the following features: Scan, A/B quick access channels, **voice scrambler, battery life indicator, vox (voice activated transmit), low battery indicator, large LCD with back light, **except versions C & D

1.2 PACKING LIST

The supplied package:

- ► HT640   Marine transceiver
- ► CNB640E   1800mAh rechargeable lithium-Ion battery pack
- ► CMC640   Dc charge cable with 12V cigarette lighter plug
- ► CCA640   Trickle charger pod & screws
- ► CWC640   230v wall charger
- ► CAT640   flexible antenna
- ► CBH640   Spring loaded belt clip
- ► Carry strap
- ► Owners manual

1.3 OPTIONS (ACCESSORIES)

The HT640 is supported by a wide range of useful accessories.
For an up to date list visit our web site at www.entel.co.uk

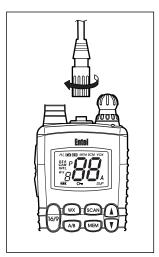|	
CSA640E	Single pod rapid charger, 110/230v operation
CSB640E	Six pod rapid charger, 110/230v operation
CST640E	3 or 6 pod battery conditioner/analyser
CNB640E	7.4V 1800mAh rechargeable lithium-Ion battery pack
CMP1/640	Compact speaker microphone with earpiece jack
CMP640	Submersible, noise cancelling speaker microphone (heavy duty)
EA12/640	D shape earpiece mic with PTT
EA15/640	Covert style ear/microphone with transparent acoustic tube
EA19/640	Earpiece with short boom mic & PTT
MSP01/640	Crash helmet earpiece microphone with PTT
CHP1/640	Light weight single earpiece headset with PTT
CHP640HS	Heavy duty single ear defender for hardhat with PTT (vox)
CHP640D	Heavy duty double ear defender with headband and PTT (vox)
CXR5	Skull microphone (vox)
CXR16	Throat microphone (vox)
EHP640	Covert style earpiece
CFC640	Soft leather pouch with carry strap. Red, yellow, or blue.
CLC640	Heavy duty transparent case with belt loop & carry strap
CHC640	Nylon body holster with carry strap
CXW640	Antenna adaptor for external aerial connection
CAT640	Flexible antenna
CBH640	Spring loaded rear clip

> Accessories suitable for vox operation have been marked (vox)

1.3.1 ATTACHING AUDIO ACCESSORIES

Locate accessory connector cover marked "ACC" Lift cover and rotate (screw) the connector as shown in the diagram below.

Note: The accessory socket is waterproof without the ACC cover in place. However, when not using an audio accessory we strongly advise keeping the ACC cover firmly pressed in its recess to prevent foreign objects from getting into the socket.

Figure 1. Attachment of accessory connector

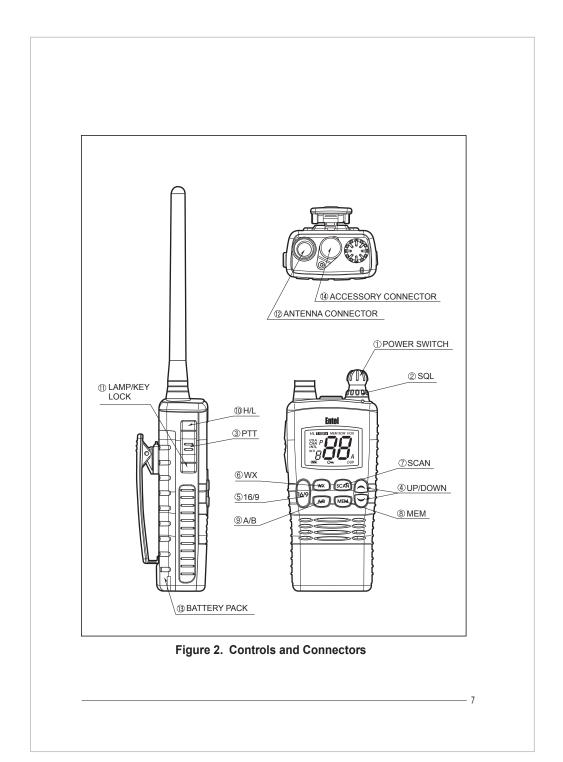## 1.4 CONTROLS AND INDICATORS

① **POWER SWITCH/VOLUME CONTROL**

Powers the transceiver on and off.

② **SQUELCH CONTROL**

To set the squelch, rotate the control fully anti-clock wise, then rotate the control clockwise until the white noise stops.
If you occasionally get breakthrough of unwanted noise, rotate the control a little further clockwise.

③ **PUSH TO TALK SWITCH**

Hold down to transmit, release to receive.

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⑪ LAMP/KEY LOCK

⑩ H/L

③ PTT

⑥ WX

⑤ 16/9

⑨ A/B

⑬ BATTERY PACK

⑭ ACCESSORY CONNECTOR

⑫ ANTENNA CONNECTOR

① POWER SWITCH

② SQL

⑦ SCAN

④ UP/DOWN

⑧ MEM

Figure 2. Controls and Connectors

④ **UP/DOWN buttons**

Select the desired channel by pressing the UP/DOWN buttons.

For fast channel selection hold down for more than 1 second.

⑤ **16/9 button**

A momentary press of this button recalls channel 16 from any

location. Holding this button for 1 second recalls channel 9.

⑥ **WX button**

Immediately recalls the weather channels.

⑦ **SCAN button**

Starts scanning programmed channels.

⑧ **MEM button**

Memorises a desired channel for scanning.

⑨ **A/B button**

Immediately recalls up to 2 user-defined channels.

⑩ **H/L button**

Press this button for one second to toggle between high and low

power. (1 & 5 watts)

⑪ **LAMP/KEY LOCK**

Momentarily pressing this button illuminates the LCD display.

Holding this button for over 1 second activates the key lock.

To deactivate press button again.

⑫ **ANTENNA CONNECTOR**

Connects the supplied flexible antenna or an optional external aerial

adaptor.

⑬ **BATTERY PACK**

Rechargeable lithium-Ion battery pack provides DC power source to

the transceiver.

⑭ **ACCESSORY CONNECTOR**

To connect any HT640 approved audio accessory.

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SUPERYACHT SPARES

1.5 INDICATORS

Figure 3. LCD indications

CHANNEL DISPLAY
The operating channel.
H/L
H indicates high power (5 watts) L indicates low power (1 watt)
USA/CAN/INTL
Indicates the channel set for; USA, Canadian, and International
waters.
A Indicator
A ship-to-ship channel in U.S.A or Canadian mode whose counterpart
in the International mode is a public correspondence (marine operator)
channel.
WX
NOAA weather channel (U.S,A & Canadian waters only)
TX Indicator
Indicates transmission in progress
VOX
Voice operated mode enabled
SCAN
SCAN mode in progress
MEM
Indicated channel is memorised for scanning

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SCM
Scrambler mode enabled (versions A & B only)
LAMP / ⚬┯
The keypad is locked, with the exception of the [PTT], [H/L] and
[LAMP] buttons.
BATTERY LIFE INDICATOR
The lithium-Ion battery of your transceiver is continually monitored
for your convenience and safety.

1.6 RECEPTION

1. Turn the transceiver on by rotating the volume control in a clockwise
   direction. A power on tone is generated after 1 second to indicate
   the transceiver has passed its self-diagnostic test.
   During standby the LED indicator will pulse amber every 3 seconds,
   to further verify its circuitry is functioning correctly.
   Select the desired audio level by further rotating the control clockwise.
   After power on, the transceiver will always default to the last channel
   selected.

2. Turn the squelch control fully counter clockwise, then rotate clockwise
   until the white noise stops.
   This condition is known as the "squelch threshold" If the control is
   turned clockwise past this point, weak signals may not be received.
   No noise or signal is heard until a signal is received that exceeds
   the squelch threshold.

3. Select the desired channel using the [UP/DOWN] buttons.
   A full listing of channels can be found on page 22.
   Sometimes, a slight adjustment of the squelch threshold is needed as
   some channels have a higher noise level than others.

4. When receiving a signal the LED indicator illuminates green.
   A "RX" indication is also displayed on the LCD.

1.7 TRANSMITTING

1. Perform steps 1 through 3 of RECEPTION.

2. Before transmitting, monitor the channel and make sure it is clear.

3. For communications over short distances, press the [H/L] key and select low power (1 watt) Transmitting on 1 watt prolongs battery life, and should be selected whenever possible.

4. When receiving a signal, wait until the signal stops before transmitting. The transceiver cannot transmit and receive simultaneously.

5. Press the [PTT] (push-to-talk) switch to begin your transmission. To confirm transmission in progress the LCD indicator illuminates TX and the LED illuminates RED.

6. Holding the transceiver 1 inch from your mouth speak slowly and clearly into the microphone.

7. When the transmission is finished, release the [PTT] switch.

1.8 INT, USA, & CANADIAN MODES

**In compliance with worldwide license regulations
the following version of HT640 are available：
Version A : INT, USA, & Canadian modes
Version B, C and D : INT mode only**

1. In the case of version A only ; to change the channel set of the transceiver, hold down the [WX] key, The mode changes from U.S.A to Canadian to International.

2. Refer to the marine channel charts in this booklet for allocated channels in each mode.

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1.9 NOAA WEATHER CHANNELS

(Applicable to version A model only)

1. To receive a weather channel, press the [WX] key.
   The transceiver enters into weather channel mode.

2. There are 10 weather channels. Use the UP or DOWN buttons
   to select the desired weather channel.

3. To exit from the weather channels, press the [WX] key.
   The transceiver recalls the previous working channel.

2.0 SCAN

1. Select the desired channel to be scanned using the °„ & °Â buttons.

2. Press the [MEM] button to store the channel into the transceivers memory.
   [MEM] is displayed on the LCD.
   This channel is now memorised to be scanned.

3. To scan further channels, repeat steps 1 & 2.

4. To delete a channel from the transceivers scan memory, simply press
   [MEM] button again whilst the memorised channel is displayed.
   [MEM] disappears.

5. All channels programmed remain in the transceivers scan memory,
   even if the power is switched off.

6. Adjust the squelch control until the white noise is eliminated.

7. To start scanning, press the [SCAN] key. The scan proceeds from the
   lowest to the highest programmed channel number and stops on
   channels when a transmission is received.

8. To stop the scan at any time, press the [SCAN] key.

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2.1 EMERGENCY CHANNELS

To select the emergency channel, press the [16/9] button from any
channel. Channel 16 appears on the display.
To recall the previous channel used, press the [16/9] button once again.

2.2 CHANNEL 9

Channel 9 is used as a hailing channel for initial, non-emergency contact
with other vessels. Hold down the [16/9] key for 1 second to select
channel 9.

2.3 CHANNEL A/B INSTANT ACCESS

For your convenience, two user assigned channels can be programmed
for instant access. If the [A/B] key is pressed and no channel A or B has
been assigned, a short beep will be heard.

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2.3.1 PROGRAMMING A/B INSTANT ACCESS BUTTONS

1. Hold down the [A/B] key and turn on the transceiver.

2. The letter A will appear on the display, and dashes "_ _" indicate that no channel has been designated channel A.

3. Press the [UP/DOWN] key until the desired channel number is displayed.

4. With the desired channel number displayed, press the [MEM] key once. The "A" will stop flashing, indicating that the displayed channel is now designated channel A.

5. Press the A/B button again. The letter "b" will appear on the display. Repeat steps 2 through to 4.

6. Switch transceiver off and on to exit this mode and save changes.

> NOTE: Should you later wish to delete any stored channels simply
>   press "MEM" key whilst in A/B programming mode.

2.4 OPERATION OF A/B INSTANT ACCESS BUTTONS

Pressing the [A/B] button will toggle between A, B and the previous selected working channel. Channel A is represented by the "A" to the left of the channel number on the LCD, and channel B is represented by "b".
NOTE: Do not confuse this "A" with the one that is sometimes displayed to the right hand side of the channel number
(in U.S.A and Canadian modes)

2.5 VOICE SCRAMBLER

(HT640 versions A & B only)
Press the [SCAN] key and switch the transceiver on simultaneously.
"SCM" will be displayed on the LCD **confirming that the voice scrambler of your HT640 is now activated.**

NOTE: The scrambler cannot be enabled on channel 16 & 9.

To exit scramble mode simply switch the radio off and on.

**Legislation for the use of a scrambler (encryption) varies from country to country. We recommend that you check with your dealer prior to using this feature.

2.6 VOX(voice operated transmit)

Press the [MEM] button and switch the transceiver on.
The VOX symbol and a "0" will flash. "0" indicates VOX is switched off,
1 is for low sensitivity, 5 is for normal sensitivity, and 9 is for high sensitivity.
Use the [UP/DOWN] button to select the desired level, press MEM to confirm, the transceiver is now set to VOX.
To switch VOX off, go back into VOX programming mode by holding the "MEM" button whilst switching on.
Press the UP/DOWN button until the vox level is "0".

In VOX mode the transceiver will react to your voice, and transmit automatically without you having to press the PTT button.
There is always a slight delay for the electronic switching, and consideration will need to be given. To get optimum performance from the VOX feature you should use a noise cancelling headset or earpiece microphone (see accessory options)

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2.7 SIMPLEX/DUPLEX CHANNEL USE

Your transceiver has been factory programmed in accordance with
FCC (USA), industry Canada and International regulations.
The mode of operation cannot be altered from simplex to duplex or vice
versa. Simplex or duplex mode is automatically activated, depending
on the channel and the channel set and whether USA, Canadian, or
International mode is selected.
Refer to the channel charts listed later in this user manual.

If you have a license to use a specific simplex or semi-duplex channel,
contact your dealer who may be able to program your channel using
the transceivers private channel memory.

2.8 BATTERY CHARGING

1. Connect the CWC640 AC adaptor to the CCA640 charger pod.
   The LED status light will illuminate green indicating ready for charge.

2. Turn the transceiver off.

3. Insert the battery pack into the CCA640 pod, either with or without
   the transceiver attached. The LED status light changes from green to
   RED and trickle charge begins.

4. A fully discharged battery pack will take approximately 6 hours

   to charge, depending on the remaining power condition.

   When charge is complete, the LED status light turns green.

NOTE: The CWC640 AC adaptor can be replaced by the CMC640
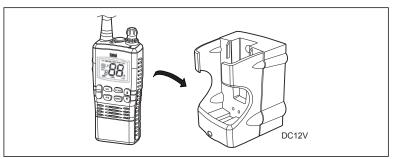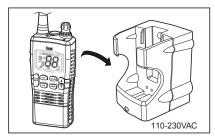   12v charger cable. Charge time remains at 6 hours.

Figure 4. CCA640 Charger pod

2.8.1 OPTIONAL RAPID CHARGER-model CSA640E

1. Connect the CSA640E to a mains supply(110 to 230V). When switching on the LED flashes orange briefly to confirm self-diagnostic test complete.

Figure 4-1. OPTIONAL CSA640E Rapid charger

2. Turn the transceiver off.

3. Insert the battery pack into the CSA640E charger, either with or without the transceiver attached. The LED will illuminate red to indicate rapid charge in progress.

4. Charge time for a fully discharged battery pack will take up to 120 minutes. On completion the LED turns green.

2.9 BATTERY REMOVAL/INSTALLATION

1. Turn the transceiver off.

2. Using a coin, rotate the battery screw anti-clockwise 2 or 3 turns.
   **Ensure that you do not hold the battery pack when unscrewing the release screw!

3. To install battery, locate the
   bottom section of the battery and
   press the battery against the
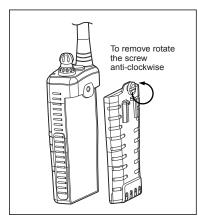   transceiver, and rotate the battery
   screw clockwise.

Figure 5. Battery removal / Installation

3.0 BATTERY INDICATOR

For your safety and convenience your
transceiver continually monitors the
battery pack and gives an indication
on the LCD:

  3 Segments : 12hours
  2 Segments :   1hour
  1 Segment : 20mins

Figure 6. Battery Indicator

3.1 BATTERY SAFETY

The battery pack of your transceiver contains lithium-Ion cells.
This type of battery stores a charge powerful enough to be dangerous
if misused or abused, especially when removed from the transceiver.
Please observe the following precautions detailed on page 19.

DO NOT SHORT BATTERY PACK TERMINALS

Shorting the terminals that power the transceiver can cause sparks, severe over heating, burns, and battery cell damage.
If the short is of sufficient duration, it is possible to melt the battery components. Do not place a loose battery pack on or near a metal surface or objects such as paper clips, keys, tools etc.
When the battery pack is installed on the transceiver, the terminals that transfer current to the transceiver are not exposed.
The terminals that are exposed on the battery pack when it is mounted on the transceiver are charging terminals only and do not constitute a hazard.

DO NOT OVERCHARGE

When using the CWC640 do not charge the transceiver for more than 8 hours. Heat generated by overcharging can shorten battery life and cause other battery pack component failures

DO NOT INCINERATE

Do not dispose of your CNB640 battery in a fire or incinerator.
The heat of fire may cause battery cells to explode and/or release dangerous gases.

DISPOSE OF BATTERY PACKS PROPERLY ♻

Lithium-Ion battery packs must be recycled or disposed of properly. For requirements in your area, check with the dealer from whom you purchased your transceiver.

3.2 TROUBLE SHOOTING

TROUBLESHOOTING CHART		
SYMPTOM	PROBABLE CAUSE	REMEDY
Transceiver not switching on	Battery needs charging Battery is exhausted	Charge the battery pack Replace the battery pack
The scan key does not start the scan	No channels memorised (MEM) Squelch is not adjusted	Use the MEM key to enter desired channels into scan memory Adjust the squelch to threshold or to the point where the white noise just disappears.
Cannot change any function	Key lock is switched on	Turn key lock off
LED on CCA640 & CWC640 does not illuminate when charging	Defective battery, CCA640, or CWC640 Dirty terminal contact on CCA640	Contact your dealer Clean contacts with dry clean cloth
No transmit or Hi power can be selected	Some channels are low power only Battery pack exhausted	Change to high power channel Recharge the battery pack
Transceiver transmits without pressing PTT button Buttons seem to work intermittently	VOX has been enabled	Hold MEM button for 2 secs, use UP or DOWN button and select 0 to turn VOX off.

3.3 GLOSSARY OF TERMS

Canadian Channels Channels designated as defined and regulated by Industry Canada, (RIC), Marine Communications & Traffic Services.

Duplex Transmit and receive on different frequencies

Encryption scrambled audio, for extra privacy

FM Frequency modulation

International channels Channel designations as defined for use in International waters by the International Telecommunications Union (ITU)

Marina channels Special channels reserved for marinas located in selected European countries.
These channels are pre-programmed in the transceiver as P1 & P2.

Private channels Channels, which are assigned by regulatory agencies governing VHF radio use for a specific region or country.
These channels are prefixed with a "P" and can only be programmed into the transceiver by authorised dealers.

PTT Press to talk (transmit)

RX Receive

Simplex Transmit and receive on the same frequency

Squelch To suppress background noise

TX Transmit

Transceiver A device that can transmit and receive

U.S.A channels Channel designations as defined by the Federal Communications Commission, (FCC)

VOX Voice Operated Transmit

VHF Very High Frequency (30MHz to 300 MHz)

**Based on duty cycle of 5%TX, 5%RX, 90%STANDBY

3.4 CHANNEL CHART(INT, USA, CANADIAN AND private)

CH	U	C	I	S/D	TX	RX	CHANNEL USE
					VHF MARINE CHANNEL CHART		
01A	X			S	156.050		Port Operation and Commercial. VTS in selected areas
01		X	X	D	156.050	160.650	Public Correspondence (Marine Operator)
02		X	X	D	156.100	160.700	Public Correspondence (Marine Operator)
03A	X			S	156.150		US Government only, Coast Guard
03		X	X	D	156.150	160.750	Public Correspondence (Marine Operator)
04A		X		S	156.200		Pacific coast: Coast Guard, East Coast: Commercial fishing
04			X	D	156.200	160.800	Public Correspondence (Marine Operator), Port operation, ship movement
05A	X	X		S	156.250		Port operation. VTS in Seattle
05			X	D	156.250	160.850	Public Correspondence (Marine Operator), Port operation, ship movement
06	X	X	X	S	156.300		Inter-ship Safety
07A	X	X		S	156.350		Commercial
07			X	D	156.350	160.950	Public Correspondence (Marine Operator), Port operation, ship movement
08	X	X	X	S	156.400		Commercial (Inter-ship only)
09	X	X	X	S	156.450		Boater Calling channel, Commercial & Non-commercial (Recreational)
10	X	X	X	S	156.500		Commercial
11	X	X	X	S	156.550		Commercial. VTS in selected areas.
12	X	X	X	S	156.600		Port operation. VTS in selected areas.
13	X	X	X	S	156.650		Inter-ship Navigation Safety (Bridge-to-bridge)
14	X	X	X	S	156.700		Port operation. VTS in selected areas.
15		X	X	S	156.750		Commercial, non-commercial, ship movement (1W)
16	X	X	X	S	156.800		International Distress, Safety and Calling
17	X	X	X	S	156.850		State Controlled (1W)
18A	X	X		S	156.900		Commercial
18			X	D	156.900	161.500	Port operation, ship movement
19A	X			S	156.950		US: Commercial
19A		X		S	156.950		Coast Guard
19			X	D	156.950	161.550	Port operation, ship movement
20A	X			S	157.000		Port Operation
20		X	X	D	157.000	161.600	Canadian Coast Guard Only, Interational: Port operation and shipment
21A	X	X		S	157.050		U.S. Government only, Canadian Coast Guard
21			X	D	157.050	161.650	Port operation, ship movement
22A	X	X		S	157.100		US and Canadian Coast Guard Liaison and Maritime Safety Information Broadcasts announced on channel 16
22			X	D	157.100	161.700	Port operation, ship movement
23A	X			S	157.150		U.S. Government only
23		X	X	D	157.150	161.750	Public Correspondence (Marine Operator)
24	X	X	X	D	157.200	161.800	Public Correspondence (Marine Operator)
25	X	X	X	D	157.250	161.850	Public Correspondence (Marine Operator)
26	X	X	X	D	157.300	161.900	Public Correspondence (Marine Operator)
27	X	X	X	D	157.350	161.950	Public Correspondence (Marine Operator)
28	X	X	X	D	157.400	162.000	Public Correspondence (Marine Operator)

CH	U	C	I	S/D	TX	RX	CHANNEL USE
VHF MARINE CHANNEL CHART							
85A	X			S	157.275		Public correspondence (Marine Operator)
85	X	X	X	D	157.275	161.875	Public correspondence (Marine Operator)
86A	X			S	157.325		Public correspondence (Marine Operator)
86	X	X	X	D	157.325	161.925	Public correspondence (Marine Operator)
87A	X			S	157.375		Public correspondence (Marine Operator)
87	X	X	X	D	157.375	161.975	Public correspondence (Marine Operator)
88A	X			S	157.425		Commercial, Inter-ship Only
88		X	X	D	157.425	162.025	Public correspondence (ship-to-coast)
WX01	X	X	X	D	---	162.550	Weather (receive only)
WX02	X	X	X	D	---	162.400	Weather (receive only)
WX03	X	X	X	D	---	162.475	Weather (receive only)
WX04	X	X	X	D	---	162.425	Weather (receive only)
WX05	X	X	X	D	---	162.450	Weather (receive only)
WX06	X	X	X	D	---	162.500	Weather (receive only)
WX07	X	X	X	D	---	162.525	Weather (receive only)
WX08	X	X	X	D	---	161.650	Weather (receive only)
WX09	X	X	X	D	---	161.775	Weather (receive only)
WX10	X	X	X	D	---	163.275	Weather (receive only)

3.5 SPECIFICATION(General, receive and transmit)

Performance specifications are nominal, unless otherwise indicated, and are subject to change without notice.

GENERAL

Frequency Range	TX/RX 156.000 - 163.275MHz
Type of emission	16K0F3E
Number of channels	58 (EXP. 36)
DC Power supply	7.4V DC (NTLB-155)
Current drain	Transmit 1.3A (High). 0.7A(Low)
	Receive 135mA,
	Standby 40mA
Duty cycle based on (5%-5%-90%)	16 hours (High)
	17 hours (Low)
Frequency stability	+/-0.0005%
Temperature range	-20℃ to +50℃
Dimensions	59(W)mm $\times$ 130(H)mm $\times$ 33(D)mm
Weight	296g (10.43 oz)
RF type approval	EN 300 178-2 V1.1.1 (2000-08)
LVD	EN 60950 August 1992, A11 1997
EMC	EN 60945 1997
ATIS	ETS 300 698 Annex December 1996

TRANSMITTER

RF output power (at 7.4V DC)	5W / 1W (High / Low)
Maximum frequency deviation	$\pm$5.0khz
Spurious emissions	65dB
Adjacent channel power	-70 dB

RECEIVER

Receive system	Double conversion superheterodyne
Intermediate frequency	1st 21.7MHz
	2nd 450khz
Sensitivity (12dB SINAD)	-119dBm
Adjacent channel selectivity	-74dB
Spurious response rejection	-70dB
Intermodulation rejection ratio	-68dB
Hum and noise	-48dB
Audio out power (at 7.4V DC)	500mW(<5% distortion)
	distortion with an 8Ω load

3.5.1 PRIVATE CHANNELS

The HT640 has the capacity for a further 36 private channels.
These channels are dealer programmable only.

Version A models only are pre-programmed with marina channel 2,
known commonly as M2 (161.425Mhz). This channel is displayed as
"P1" and is located between channels 01 & 88.

3.6 NOTES

Use this page to record important information, such as the serial number of your HT640, and any private channels programmed by your dealer.

<Intended Country of Use>

☐ GER	☐ NED	☐ ITA
☐ AUT	☐ BEL	☐ GRE
☐ GBR	☐ LUX	☐ SWE
☐ IRL	☐ ESP	☐ DEN
☐ FRA	☐ POR	☐ FIN

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